

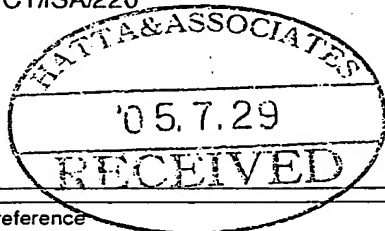
# PATENT COOPERATION TREATY

From the  
INTERNATIONAL SEARCHING AUTHORITY

## PCT

To:

see form PCT/ISA/220



### WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/JP2005/006551

International filing date (day/month/year)  
29.03.2005

Priority date (day/month/year)  
29.03.2004

International Patent Classification (IPC) or both national classification and IPC  
C08J3/12, C08J3/24, C08L101/14, A61L15/60

Applicant  
NIPPON SHOKUBAI CO., LTD.

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2005/006551

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
  - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ in written format
    - ☐ in computer readable form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in computer readable form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2005/006551

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1.. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	1-21
Inventive step (IS)	Yes: Claims	
	No: Claims	1-21
Industrial applicability (IA)	Yes: Claims	1-21
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING  
AUTHORITY (SEPARATE SHEET)**

International application No.

PCT/JP2005/006551

**Re Item V.**

**1). State of the art**

Reference is made to the following documents :

D1 : US-5684106 A (Johnson et al., 4 November 1997)

D2 : US-2002/128618A1 (Frenz Volker et al, 12 September 2002)

D3 : US-2002/120074A1 (Katsuyuki Wada, 29 August 2002)

**2). Art. 33(1)(2)(3) PCT - Novelty & Inventive step**

Document D1 discloses (the references in parentheses applying to this document) a superabsorbent polymeric material obtained by copolymerization of partially or wholly neutralized acrylic acid and a crosslinking agent, which material has been further surface crosslinked and has a centrifuge retention capacity (CRC) of at least 28 g/g (claims 1-3). The particle size suitably ranges from 300 to 600  $\mu\text{m}$  (col. 4, lines 46-49) and they may comprise agglomerates (col. 5, lines 49-57). Example 1 describes a polymerization process in which ethylene diamine tetra-acetic acid is used (chelating agent) as well as silica to obtain a gel which is comminuted and ground to the selected particle size as much as possible between 300 and 600  $\mu\text{m}$ . This suggests an irregular shape. The product obtained after surface crosslinking is called sample A : it has a CRC of 34 g/g. Absorbency under load is also mentioned. After surface crosslinking the particles may be treated with aqueous silica (col. 5, lines 11-15).

Document D2 deals with a related hydrogel as D1. In examples 7 and 8, CRC values above 32 g/g and vortex time below 60" are disclosed. The CRC is most preferably not less than 35 g/g (§ 35).

Document D3 mentions using a chain transfer agent, (irregular) particle sizes 150-500  $\mu\text{m}$ , CRC value over 35 g/g, absorption speed (vortex) 20-80" and water content (claims 1, 3, 4, 36 and paragraphs 131-134).

In view of the cited state of the art, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of at least claims 1, 2, 6 and 11-21 is not new in the sense of Article 33(2) PCT and, therefore, also not inventive. The dependent claims 3-5 and 8-10 are characterized by parameters which are not disclosed in the cited state of the art. It however seems unlikely that these claims contain features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).